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DEPARTMENT OF ENERGY, MINES AND RESOURCES

MINES BRANCH

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FUELS AND MINING PRACTICE DIVISION

DIVISIONAL REPORT FMP 67/27-MRL

# FIRST SUPPLEMENT TO TABULATION OF REPORTS PREPARED BY MINING RESEARCH LABORATORIES 1965-1966 INCLUSIVE

by

D.M. Varette

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## FOREWORD

For the convenience of those interested in the reports issued by the Mining Research Laboratories of the Fuels and Mining Practice Division, Mines Branch, a supplement to Divisional Report FMP 66/58-MRL has been compiled, which contains tabulations for the years 1965 to 1966 inclusive. Included in this supplement are a number of reports that were prepared by other groups that cooperated with the Mining Research Laboratories in some of the investigations.

The Laboratories keep in touch with mining research in other countries by a reasonably continuous examination of foreign reports. The volume of the literature is too great to consider making full translations of all incoming reports but an attempt is made to provide at least summary translations of all material that contains original contributions to mining research. These translations are included in this supplement of reports with full reference to the author and source.

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# REPORTS - 1965

| DR FMP NO. | |
|---|---|
| 102 65/6 -MRL | "Some Experiments on the Creep of Photoelastic Coatings" by K. Barron and H.E. Cross. |
| 103 65/9 -MRL | "Determination of the Dynamic Tensile Strength of a Series of Magnetite Specimens from Carol Lake, Labrador" by G.E. Larocque. |
| 104 65/17 -MRL | "Factors Influencing Bursting in the Director Mine, Newfoundland Fluorspar Co. Ltd." by R.C. Parsons. |
| 105 65/24 -MRL | "Tabulation of Reports Prepared by Mining Research Laboratories 1950-1964 Inclusive" by C.A. Vary. |
| 106 65/28 -MRL | "Uniaxial Study Results of Nordic Quartzite and Conglomerate" by R.C. Parsons and J.D. Sullivan. |
| 107 65/36 -MRL | "Rock Mechanics Investigation 1963/64 at MacLeod Mine, Algoma Ore Properties Division, Algoma Steel Corporation" by D.F. Coates and F. Grant. |
| 109 65/38 -MRL | "Report of the Subcommittee on Rock Classification" by D.F. Coates. (THE CANADIAN ADVISORY COMMITTEE ON ROCK MECHANICS) |
| 108 65/51 -MRL | "A Note on the Derivation of a Pillar Loading Equation" by D.F. Coates. |
| 110 65/52 -MRL | "Test Entry No. 2 at Michel, Crows Nest Pass Coal Co." by R. Parsons, L.M. Dwarkin, M. Gyenge and D.F. Coates. |
| 111 65/55 -MRL | "Petrology and Deformational Behaviour of the Director Mine Rock Types" by R.C. Parsons. |
| 112 65/56 -MRL | "Proposed Slope Stability Study at Beaver Pits, Asbestos Corporation Ltd." by M. Gyenge. |
| 113 65/69 -MRL | "Preliminary Investigations into Rockburst Conditions at Director Mine, Newfoundland Fluorspar Limited" by T.S. Cochrane. |

DR FMP NO.

65/79 -MRL "A Study of Some of the Problems Associated with the Storage and Retrieval of Information Pertaining to Rock Mechanics" by K. Barron.

65/80 -MRL "OPERATION SNOWBALL - RCAF Experiment: Unlined Tunnel Failures from Ground Shock" by D.F. Coates and A.D. Reed.

65/89 -MRL "A New Hypothesis for the Determination of Pillar Loads" by D.F. Coates.

65/95 "A visit to the Asbestos Mine, Nfld Jan 29, 1965" Pawlak

65/96 "A visit to Buchans Mine, Nfld July 1965" Pawlak

65/99 -MRL "Method of Stress Analysis for the Case of Blasting with One Free Face" by K. Sassa.

65/104 -MRL "Blasting Research Field Report" by G. Larocque, K. Sassa and J.A. Darling.

65/106 -MRL "The Geological Structure and Probable Rock Stress Environment in the Quirke Syncline and Particularly in the Algom Nordic Mine Test Area, Elliot Lake, Ontario" by I. Bain.

65/107 -MRL "Physical and Mechanical Properties of Carol Lake Ore" by R.C. Parsons.

65/108 -MRL "Loading Tests on the Wabana Model--Report No. 11, Final Report" by K. Barron.

65/110 -MRL "Report of Field Trip on Rock Breakage Problems to Texas and Ohio and Attendance at 7th Symposium on Rock Mechanics, Pennsylvania State University, University Park, Pa., June 6-16, 1965" by L.B. Geller and W.M. Gray.

65/112 -MRL "List of Study Group--Canadian Advisory Committee on Rock Mechanics" by D.F. Coates.

65/118 -MRL "A Laboratory Comparison of the Tyndalloscope, Midget Impinger and Electrostatic Methods of Evaluating Airborne Dust Concentrations" by T.S. Cochrane and L. Richards.

65/121 -MRL "Stress Analysis for Cratering" by K. Sassa.

65/98 "A visit to the Copper mines of Nfld. June 22-30/65" Pawlak

DR FMP NO.

130 65/122-MRL "Blasting Research Seminar, August 19, 1965" by D.F. Coates.

131 65/123-MRL "Progress Being Made in Roof Bolting at the Canmore Mines Ltd., Canmore, Alberta" by A.V. St. Louis.

132 65/131-MRL "Progress Report 1965 Blasting Research" by D.F. Coates.

133 65/137-MRL "Moduli Determination for the Elliot Lake Stress Relief Overcoring Work" by R.C. Parsons and J.D. Sullivan.

134 65/159 FMP "Research in Rock Methods of Rock Breakage" C.B. Ballou

135 65/164-MRL "A Liaison Note for the National Academy of Sciences Committee on Rock Mechanics" by D.F. Coates.

136 65/170 FMP "The Potash Mines of Sask. as of Oct., 1965" Pendale

137 65/172-MRL "The Mines Branch Stressmeter" by K. Barron, A.N. May and H.E. Cross.

138 65/174-MRL "Prediction and Measurement of Pillar Stresses" by D.F. Coates and A. Ignatieff.

139 65/175-MRL "A Compressometer Using Differential Transformers" by W.L. van Heerden.

140 65/177-MRL "Field Manual for the Sonic Unit" by H.B. Montone.

141 65/178-MRL "A Multi-Wire Extensometer for Axial Deformation Measurements in Long Boreholes" by D.G.F. Hedley, Y.S. Yu and A.V. St. Louis.

142 65/181-MRL "Rock Mechanics Investigations at MacLeod Mine, 1965" (A Preliminary Analysis for Stress-Relief Measurements) by Y.S. Yu.

144 65/184-MRL "Field Investigations Using Stress Relief Techniques at MacLeod Mine, Algoma Ore Properties, Wawa, Ontario" by Wm. Zawadski.

## TRANSLATIONS

DR FMP NO.

65/11 -MRL "Methods of Evaluating the Fracture State and Strength of Rocks In Situ" by M. M. Protodykonov. (Translated by Foreign Language Div., Secretary of State).

65/77 -MRL "The Effect of the Dip Angle of a Deposit on the Distribution of Stresses in Interchamber Pillars" by V. F. Trumbachev. (Translated by Foreign Language Div., Secretary of State).

65/94 -MRL "Translation of selected captions from "Symposium on Size Reduction", Frankfurt-am-Main, April 1962. (Translated by L. B. Geller, Physics Section).

65/127-MRL "Contribution to the Problem of Pillar-Stability in Potassium Salt Mines" by Karl-Heinz Hoefer. (Translated by Foreign Language Div., Secretary of State).

65/128-MRL "Infra-Red Spectroscopic Determination of Quartz Especially in Mine Dusts" by M. Gade and K-F. Luft. (Translated by Foreign Language Div., Secretary of State).

65/129-MRL "Phase Contrast Microscopy in the Dust Laboratory" by K. G. Schmidt. (Translated by Foreign Language Div., Secretary of State).

65/130-MRL "Electron-Optical Investigation of Fine-Grained Minerals" by O. E. Radczewski. (Translated by Foreign Language Div., Secretary of State).

65/160-MRL "Fundamental Physical Problems in Size Reduction" by Hans Rumpf. (Translated by Foreign Language Div., Secretary of State).

65/161-MRL "Cinematographic Analysis of the Process of Fracture" by H. Schardin. (Translated by Foreign Language Div., Secretary of State).

## PAPERS PRESENTED

| DR FMP NO. | |
|---|---|
| 64/72 -MRL | "The Stability of Slopes in Open Pits" by D.F. Coates. Presented to the 8th Commonwealth Mining and Metallurgical Congress, Australia and New Zealand, 1965. |
| 64/121-MRL | "Slope Stability Studies at Knob Lake" by D.F. Coates, M. Gyenge and J.B. Stubbins. Presented to the Third Canadian Symposium on Rock Mechanics, University of Toronto, January 15-16, 1965. |
| 65/32 -MRL | "Dynamic Stresses Induced within Rock in Case of Blasting on One Face" by K. Sassa and I. Ito. Presented at the Seventh U.S. Rock Mechanics Symposium, Penn. State University, July 1965. |
| 65/75 -MRL | "Plate Load Testing on Rock for Deformation and Strength Properties" by D.F. Coates and M. Gyenge. Presented to the ASTM Rock Mechanics Symposium, Seattle, Washington, December 1965. |
| 65/182 -MRL | "Coal Mining in Poland after World War II" by Dr. Z. Kowalozyk. Presented at a seminar at Mines Branch, May 31, 1965 under the auspices of the Fuels and Mining Practice Division. |

## PUBLICATIONS

1. "Glass Insert Stressmeters" by K. Barron. Transactions, Society of Mining Engineers, pp. 287-297, December 1965. (Divisional Report FMP 64/123-MRL).

2. "Klassifikation der Gesteine für die Gebirgsmechanik" by D. F. Coates. Bergakademie, Vol. 17, No. 3, pp. 134-138, March 1965.

3. "Pillar Loading. Part I: Literature Survey and New Hypothesis" by D. F. Coates. Mines Branch Research Report R 168, October 1965.

4. "Pillar Loading. Part II: Model Studies" by D. F. Coates. Mines Branch Research Report R 170, December 1965.

5. "A Sonic System for the Determination of In Situ Dynamic Properties and for the Outlining of Fracture Zones" by G. E. Larocque. Mines Branch Technical Bulletin TB 75, August 1965.

6. "Rock Mechanics at IMC (Canada) Ltd." by G. Zahary. Proceedings, 3rd Canadian Rock Mechanics Symposium, Toronto University, pp. 1-17, January 1965.

7. "Loads on Friction Props on a Longwall Face" by H. Zorychta and G. S. Merrill. CIM Bulletin, Vol. 58, No. 634, pp. 175-181, February 1965.

8. "Rock Mechanics Principles" by D. F. Coates. Mines Branch Monograph 874, 1965.

REPORTS - 1966

| DR FMP NO. | |
|---|---|
| 148 (66/6) -MRL | "Preliminary Design of Support System for the Pit Walls of Quebec Cartier Mining Co. Ltd." by D.F. Coates and M. Gyenge. |
| 151 (66/16) FMP | "3rd Inspection of Rock Maintenance, R.C.A.F. "Stage" installation North Bay Feb 8-9, 1966, by Pandula |
| 152 (66/27) -MRL | "OPERATION DISTANT PLAIN - RCAF Experiment: Proposed Experiment on Shaft Failures from Ground Shock" by R.J.L. Rogers and D.F. Coates. |
| 154 (66/35) -MRL | "An Optical Method of Measuring the Vertical Deformation of a Pillar" by D.G.F. Hedley. |
| * 155 (66/37) -MRL | "A New Strain Cell Installing Tool" by W.L. van Heerden, C. Szombathy and A.V. St. Louis. |
| 159 (66/45) -MRL | "Stress Distribution in Slopes Using Photoelasticity. Part II" by R. Concil and M. Gyenge. |
| 160 (66/46) -MRL | "Stress Distribution in Slopes Using Photoelasticity. Part III" by R. Drouin and M. Gyenge. |
| 161 (66/49) -MRL | "Blasting Research Program 1966-67" by G.E. Larocque and D.F. Coates. |
| 163 (66/57) -MRL | "Strata Control Measurements in the Sydney Coalfield" by H. Zorychta, D.W. MacFadgen and F. Smith. |
| 832 (66/58) -MRL | "Tabulation of Reports Prepared by Mining Research Laboratories 1950-1965 Inclusive" by D.M. Varette. |
| 164 (66/62) -MRL | "In Situ Strain Measurements with Encapsulated 45° Rosette Strain Gauges, 14 West Extension Drift, Nordic Mine, Elliot Lake, Ontario" by F. Grant. |
| 165 (66/65) -MRL | "Measurement of the Attenuation of the Spherical Stress Wave Induced in Steel Blocks by the Detonation of Pentolite" by M. Terada. |
| 166 (66/68) -MRL | "The Effect of Stress Concentrations Around Boreholes on Measurements of Absolute Stress in Rock" by W.L. van Heerden. |

DR FMP NO.

167 (66/70) -MRL "Comparison of Dust Sampling Instruments: I. Interim Report on Pure Silica Dust" by G. Knight.

168 (66/71) -MRL "Rock Slope Research Program 1966/67" by M. Gyenge and D.F. Coates.

169 (66/81) -MRL "Tentative Specifications for Structural Drilling and Logging" by D.F. Coates and M. Gyenge.

170 (66/89) -MRL "Laboratory Calibration of an Electrical Extensometer" by D.G.F. Hedley, Y.S. Yu and H.B. Montone.

171 (66/101) -MRL "The Design and Development of a Multi-Wire Borehole Anchor" by A.V. St. Louis.

172 (66/103) -MRL "Development of Low-Modulus Photoelastic Model Material, Mirelite" by M. Gyenge.

173 (66/108) -MRL "Attenuation of the Spherical Stress Wave Induced in Elliot Lake Quartzite by an Explosion" by M. Terada.

174 (66/112) -MRL "A Comparison of Two Methods for Measuring Stress in Rock" by W.L. van Heerden and F. Grant.

175 (66/117) -MRL "Rock Mechanics Investigations 1964/65 at MacLeod Mine, Algoma Ore Properties, Wawa, Ontario" by G. Zahary and D.F. Coates.

176 (66/119) -MRL "Loading Tests on Core Discs Obtained from In Situ Stress Relieving Tests" by W.L. van Heerden.

178 (66/120) -MRL "Stress Distribution Produced in a Continuous Elastic Media by Detonation of a Column Charge of Explosive at One End" by G.E. Larocque.

177 (66/122) -MRL "Determination of Preferred Planes of Weakness in Geological Materials - Part I" by R.C. Parsons and M.D. Everell.

179 (66/123) -MRL "Coupling Relations in Blasting" by M. Aslam.

180 (66/124) SP FMP "Visit to Brunswick Mining & Smelting Co Ltd, Heath Steel Mines Ltd, Nigadoo River Mines Ltd." Pendale

183 (66/129) -MRL "Triaxial Test Results on Carol Lake Ore" by R.C. Parsons.

181 (66/126) FMP SP "Visit to Solbec Copper Mine & Lespra Mine, Shefford, P.Q." Pendale

182 (66/127) FMP SP "Visit to Gaspe Copper Mines Ltd. Murdochville, Que" Pendale

DR FMP NO.

184 66/130-MRL "Expansion of Cavities in Brittle Materials" by B. Ladanyi.

185 66/131-MRL "Stress Distribution Produced in a Continuous Elastic Media by Two Point Detonation of a Column Charge of Explosive" by G.E. Larocque.

186 66/134-MRL "A Laboratory Comparison of Dust Sampling Instruments on Ore, Concentrate and Flux from a Quebec Smelter Operation" by G. Knight.

188 66/135-MRL "Ground Control Research Program 1966" by G. Zahary and D.F. Coates.

189 66/139-MRL "Investigation of Anchorage Capacity of Roof Bolt Supports in the Sifto Salt Mine at Goderich, Ontario" by F. Grant.

190 66/144-MRL "Comparison of Dust Sampling Instruments - II. Interim Report on Pyrite Dust" by G. Knight.

66/147-MRL "Comparison of Dust Sampling Instruments - III. Interim Report on Coal Dust" by G. Knight.
192

66/151-MRL "Attenuation of the Spherical Stress Wave Induced in Magnetite Ore of Carol Lake, Labrador, by an Explosion" by M. Terada.
191

66/152-MRL "Determination of Preferred Planes of Weakness in Geological Materials - Part II" by M.D. Everell and R.C. Parsons.
193

66/157-MRL "Minutes of the Seventh Meeting of the Canadian Advisory Committee on Rock Mechanics" by D.F. Coates.

66/162-MRL "Laboratory Roof Bolt Studies" by W.L. van Heerden and D.F. Coates.
194

66/163-MRL "Notes on Hydraulic Backfilling" by Y.S. Yu.

196 66/168 FMP "Visit to Endako Mines Ltd. B.C. Sept '66" Pinsdale

202 66/178-MRL "Notes on a Trip to Examine South African Mining Research" by D.F. Coates.

203 66/182 FMP "Underground Development of Metallic Orebodies" Pinsdale

204 66/188-MRL "Field Investigation at Director Mine, St. Lawrence, Newfoundland, February 4 to March 25, 1966" by W. Zawadski and J. St. Onge.

198 66/169 FMP "Visit to Craigmont Mines Ltd, Merritt, B.C." Pinsdale

197 66/174 FMP "Visit to Bethlehem Copper Corp. Ltd, B.C. Sept '66". Pinsdale

199 66/175 FMP "Visit to Boss Mountain Mine, B.C., Sept 66". Pinsdale

200 66/176 FMP "Visit to Red Mountain Mine, Rossland, BC, Oct 66". Pinsdale

201 66/177 FMP "Visit to Brenda Mines Ltd, B.C. Oct '66". Pinsdale

DR FMP NO.

205 (66/189)-MRL "Sonic Measurements at Nordic Mine, Rio Algom Mines Limited, Elliot Lake, Ontario" by Y.S. Yu.

206 (66/191)-MRL "Evaluation of the Borehole Penetrometer for Estimating Rock Strength" by T.J. Vanderzee.

207 (66/193)-MRL "An Interpretation of Field Stress Measurements" by G. Zahary.

## TRANSLATIONS

66/2 -MRL "The Process of Rock Disintegration Through Drilling" by P.M. Postomyan, Oil Industry, No. 7, pp. 9-13, 1957. (Translated by Foreign Language Div., Secretary of State).

66/3 -MRL "Use of the Photoelasticity Method for Investigating the Process of Rock Disintegration by Drilling" by L.G. Grachak, Reports for Higher Educational Institutions (Geology & Surveying), No. 1, pp. 122-129, 1965. (Translated by Foreign Language Div., Secretary of State).

66/26 -MRL "On the Technique of Dust Microscopy using the Phase Contrast Microscope" by G. Heidermanns, Staub. Vol. 19, No. 4, pp. 104-105, 1959. (Translated by Foreign Language Div., Secretary of State).

66/28 -MRL "Investigation of Rock Mechanics with an Impact Hammer" by Oswald Haase, Gluckauf, Vol. 101, No. 17, pp. 1030-1036, 1965. (Translated by Foreign Language Div., Secretary of State).

66/132-MRL "On Some Problems about the Earth Pressure on Tunnels in Soft Ground" by Eiichi Oda, Memoirs of Faculty of Engineering, Tokushima University, No. 8, 1963. (Translated by Dr. M. Terada, NRC Post-Doctorate Research Fellow, Kyoto University, Kyoto, Japan.

DR FMP NO.

66/154-MRL "A Rockburst Under Unusual Conditions" by Dr.-Ing. G. Bräuner, Gluckauf, pp. 8-11, 1966. (Translated by Foreign Language Div., Secretary of State).

66/160-MRL "Traduction de l'Appendice B du Mines Branch Monograph 874" by D.F. Coates - Glossaire, Traduit par M.D. Everell, etudiant, Ecole Polytechnique, Montreal.

## PAPERS PRESENTED

147 (66/1) -MRL "The Effect of Stress Concentrations on the Stability of Tunnels" by D.F. Coates. Presented at the First International Congress on Rock Mechanics, Lisbon, Portugal, Sept. 1966.

149 (66/9) -MRL "Stress Measurements at Elliot Lake" by D.F. Coates and F. Grant. Presented at CIMM Conference at Quebec City, April 1966.

150 (66/14) -MRL "Rock Mechanics Investigations in a Canadian Salt Mine" by W.G. Muir and T.S. Cochrane. Presented at the First International Congress on Rock Mechanics, Lisbon, Portugal, Sept. 1966.

66/40 -MRL "The Planning of Slopes in Shale and Other Rocks" by D.F. Coates. Presented at Denver Meeting, American Society of Civil Engineers, May 1966.

162 (66/52) -MRL "Roof Bolting Effectiveness at Michel" by D.F. Coates and L.M. Dwarkin. Presented at CIMM Conference at Quebec City, April 1966.

66/112-MRL "A Comparison of Two Methods for Measuring Stress in Rock" by W.L. van Heerden and F. Grant. For Presentation at the 4th Canadian Rock Mechanics Symposium, Ottawa, March 1967.

209 (66/197) -MRL "Field Blasting Studies" by G.E. Larocque, K. Sassa, J.A. Darling and D.F. Coates. For Presentation at the 4th Canadian Rock Mechanics Symposium, Ottawa, March 1967.

"Slope Stability in Rock" by D.F. Coates. Presented to the Ottawa Geotechnical Group, National Research Council, May 3, 1966.

"Blasting Research Studies at the Department of Mines" by G.E. Larocque. Presented to the Society for Experimental Stress Analysis, Ottawa Section, January 27, 1966.

## PUBLICATIONS

1. "Prediction and Measurement of Pillar Stresses" by D.F. Coates and A. Ignatieff. Canadian Mining Journal, Vol. 87, No. 1, pp. 50-56, January 1966. (Divisional Report FMP 65/174).

2. "The Effect of Stress Concentrations on the Stability of Tunnels" by D.F. Coates. Proceedings, 1st International Congress, International Society of Rock Mechanics, Lisbon, 1966. (Divisional Report FMP 66/1).

3. "Stress Measurements at Elliot Lake" by D.F. Coates and F. Grant. CIMM Bull., Vol. 59, No. 649, pp. 603-613, May 1966. (Divisional Report 66/9).

4. "Rock Mechanics Investigations in a Canadian Salt Mine" by W.G. Muir and T.S. Cochrane. Proceedings, 1st International Congress, International Society of Rock Mechanics, Lisbon, 1966. (Divisional Report FMP 66/14).

5. "Second Supplement to Bibliography of Canadian Contributions in the Field of Rock Mechanics - Canadian Advisory Committee on Rock Mechanics" by D.F. Coates. CIMM Bull., Vol. 59, No. 654, pp. 1198-1200, October 1966. (Divisional Report FMP 66/30).

6. "Experimental Criteria for Classification of Rock Substances" by D.F. Coates and R.C. Parsons. Int. J. Rock Mech. & Min. Sci., Vol. 3, pp. 181-189, Pergamon Press Ltd., 1966. (Divisional Report 66/33).

7. "A System for the Remote Determination of the Detonation Velocity of Large Explosive Charges" by G.E. Larocque, F. Kapeller and J.A. Darling. Explosifs, No. 3, pp. 81-89, 1966. (Divisional Report FMP 66/38).

8. "The Analysis of the Viscous Property of Rocks for Classification" by R.C. Parsons and D.G.F. Hedley. Int. J. Rock Mech. & Min. Sci., Vol. 3, pp. 325-335, Pergamon Press Ltd., 1966. (Divisional Report FMP 66/39).

9. "The Planning of Slopes in Shale and Other Rocks" by D.F. Coates. Preprint, American Society of Civil Engineers, Denver Meeting, May 1966. (Divisional Report FMP 66/40).

10. "Pillar Loading. Part III: Field Measurements" by D.F. Coates. Mines Branch Research Report R 180, February 1966.

## PUBLICATIONS IN MINES BRANCH REPRINT SERIES

RS 15 "Glass Insert Stressmeters" by K. Barron. Reprinted from Society of Mining Engineers, December 1965.

RS 16 "Classification of Rocks for Rock Mechanics" by D.F. Coates. Reprinted from Rock Mechanics and Mining Sciences, Vol. 1, pp. 421-429, 1964.

RS 17 "Some Cases of Residual Stress Effects in Engineering Work" by D.F. Coates. Reprinted from State of Stress in the Earth's Crust, 1964.

RS 18 "The Stability of Slopes in Open Pits" by D.F. Coates. Reprinted from No. 42 of the 8th Commonwealth Mining and Metallurgical Congress Australia and New Zealand - 1965, 13th Technical Session.

RS 19 "Analyses of Pit Slides in Some Incompetent Rocks" by D.F. Coates, K.L. McRorie and J.B. Stubbins. Reprinted from Trans. of the Society of Mining Engineers of AIME, pp. 94-101, March 1963.

RS 20 "The Mechanics of Support and Caving in Longwall Top-Slicing" by D.F. Coates and M. Gyenge. Reprinted from the Proc. of the 4th Intl. Conference on Strata Control and Rock Mechanics, Columbia University, New York, pp. 70-84, May 1964.

RS 21 "Mecanique du Soutenement et du Foudroyage dans l'exploitation en Tranche Unidescendante par Longue Taille" by D.F. Coates and M. Gyenge. Reprinted from the Proceedings of the Fourth Intl. Conference on Strata Control and Rock Mechanics, Columbia University, New York, May 1964.

RS 25 "Systeme de Determination a Distance de la Vitesse de Detonation de Fortes Charges Explosives" by G.E. Larocque, F. Kapeller and J.A. Darling. Reprinted from Explosifs, No. 3, pp. 81-89, 1966.

RS 26 "Experimental Criteria for Classification of Rock Substances" by D.F. Coates and R.C. Parsons. Reprinted from Int. J. Rock Mech. & Min. Sci., Vol. 3, pp. 181-189, 1966.

158 (RS 27) "Planning Slopes in Shale and Other Rocks" by D.F. Coates. Conference Preprint 342 of ASCE Water Resources Engineering Conference/Denver, Colorado, May 16-20, 1966. 66/40

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✓R 180 1525 "Pillar Loading Part III : Field Measurements" D.F. Coates, February 1966.

✓R 170 1576 "Pillar Loading Part II : Model Studies" D.F. Coates, November 65

✓R 182 1577 "Laboratory Investigation of Hydrogen explosion phenomena relating to electrical apparatus" G.K. Brown, E.D. Mainty, S. Silver, April 66